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Date

8-18-97

TO: (Name, office symbol, room number,
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Initials

Date

1. Bill Grabill, District

2. Myr Area II, Atlanta

3.

4.

5.

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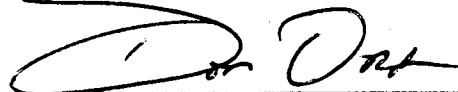
REMARKS

Bill - The wheeler water right plan is attached. Looks OK to me - only make a few minor comments; ie, no plans for 1997 for WS# 1B.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)

Room No.—Bldg.



Phone No.

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

File: Wheeler

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Recommended: Steven G. Seibert Date: 7/29/97
for Project Leader

Prepared by: Alan P. Singh Date: 29 JUL 97
Wildlife Biologist

Reviewed by: Don H. Orr 8/18/97
Wildlife Biologist

Approved by: _____ Date: _____
District Manager, Area II

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

WHITE SPRINGS UNIT (WS)

WS #1A - The main artery in the western section of WS. WS-#1A is used to dewater WS#1B, WS#2, WS#3, WS#4, WS#5 and possibly WS#6 late in the season. Water is released through WS#1 water control structure and goes under Highway 31 to the Whiteside Pump Station. Whiteside also dewateres portions of Swan Creek State Management Area.

WS #2 - This is a small area and cannot be dewatered until WS #1A is lowered. Beaver problems/vegetation clogging the water control structure cause intensive management. For example, structures must be opened in the morning and closed in the afternoon to prevent beavers from damming the structure. WS-#2 also has an alligator weed problem at lower levels. The west side (WS-#2a) is a semi-upland area and can be farmed. The east side is lower and more conducive to moist soil management.

WS #3 - This unit cannot be dewatered until WS #1A has been. It is a good flat unit with good moist-soil potential. Unfortunately, alligator weed and hardwood (ash and willow) growth is prolific and hard to control.

WS #4 - A potentially excellent food producer. It has beaver problems much like WS-#2. The dike still needs to be raised about two feet along with improved access onto refuge from the Lonesome Pine road. Willows along the ditch and in lower areas in the unit need to be dozed and windrowed, but it will take a long, hot, dry summer to enable us to do the work.

WS #5 - A small area near north end of I-65 Bridge on west side. It is almost a mirror image of WS-#4. The water control structure still needs replacing.

WS #1B - A large unit west of I-65 and north of the river. This is the origin of the main ditch which flows through White Springs. This unit is large with excessive elevation changes ± 4 feet. This gives the opportunity to plant corn, beans, milo, or millet in the higher elevations. Lower areas are used to produce moist soil food plants. As the unit is gradually flooded it provides a great diversity of usable food for wintering waterfowl.

WS #6 - This unit is mainly used for agricultural production. A small portion of this unit is of a lower elevation. The lower area is a good producer of moist soil foods, but needs disking every three years. WS-#6 is dewatered by gravity flow into Limestone Bay in February and March. After March, a Gator pump (portable high capacity/high volume pump) is used to dewater.

PENNEY BOTTOMS

We are managing this primarily as a farming unit with a 50 acre moist soil component. We drain it as low as we can by gravity flow in mid-March. A Gator pump is then used to maintain the low water level. Ideally, we plant corn on the lower elevations of the field and produce natural foods in the dewatered slough-bed.

ROCKHOUSE #1

This is a farmed unit where lowest portions of fields should be planted later in the year to millet or left alone if natural foods are good. We do not want to plant these areas to harvestable crops because they will flood or be too wet to harvest in the fall. Rockhouse #2 is managed in conjunction with Rockhouse #1. The difference being that Rockhouse #2 is at a higher elevation than Rockhouse #1.

BUCKEYE

Two springs in the north end of the unit can be used to keep it wet. Keeping the unit dry is a challenge. Rockhouse 1 has to be lower than Buckeye to get this area dewatered. Open areas are farmable and are good for beans or milo, but not corn. The unit has thick alligator weed and knot grass (paspalum) mats. It needs either spraying with arsenal or disking and planting in milo, millet or buckwheat.

THORSON

A long, narrow impoundment east of Buckeye separated by middle ditch. The north side was used for several years as alligator weed/Arsenal test plots. The south side has also been treated with Arsenal, but mowing late in the year seems to be the most efficient way to manage.

BLACKWELL SWAMP

Now that renovations are complete on the Blackwell/Rockhouse Water Control Structure and the Blackwell Main Water Control Structure, the water level can be manipulated more easily. Basically, we will continue to manage at constant summer pool, remaining at that level through winter. We may experiment with drawing

Blackwell down approximately two feet to expose the gently sloping banks in hopes of producing moist soil food plants.

CRABTREE SLOUGH

Excellent waterfowl habitat. Leave water at constant level all year.

Whiteside Pump Station

We have to share the pumping capacity with Swan Creek State Management Area. Pumps normally turn on May 1 and turn off September 1.

State Contacts: Steve Bryant & Dudley White 353-2634
TVA Contact : Wally Brines 582-3416

Shared cost: May 1-September 1 (State-20%, TVA-50%, FWS-30%)
September 1-May 1 (State-40%, FWS-60%)

Rockhouse Pump Station

We get full benefit of this pump. Pumps normally turn on May 1 through Sept 1. Wally Brines is contact.

Shared cost: May 1-September 1 (TVA-50%, FWS-50%)
September 1-May 1 (FWS-100%)

Total annual cost for us to run both pumps is \$12-\$15,000. The good news is, we pay TVA annually for the pumping, but through Wally, we can spend the same amount of TVA money and put it back into our management and maintenance of the dike and impoundments. We have bought gravel, rip-rap, rented trucks, contracted for a mowing crew to remove hardwood growth, bought tubing for gator pump, repaired tractors, and dozers, etc.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: White Springs #1A

Acres: 355

<u>Survey Period</u>	<u>1996</u> <u>Actual Level</u>	<u>1997</u> <u>Proposed Level</u>
Jan. 1	555.30	554.50
Jan. 15	555.65	555.00
Feb. 1	555.32	554.50
Feb. 15	555.00	554.00
Mar. 1	554.00	553.50
Mar. 15	554.90	553.00
Apr. 1	555.05	552.50
Apr. 15	555.16	552.00
May 1	555.50	552.00
May 15	554.76	551.00
Jun. 1	552.50	550.00
Jun. 15	549.00	550.00
Jul. 1	550.00	550.00
Jul. 15	550.04	550.00
Aug. 1	554.15	550.00
Aug. 15	553.50	550.00
Sep. 1	550.00	550.00
Sep. 15	550.00	551.00
Oct. 1	551.70	551.50
Oct. 15	552.60	552.00
Nov. 1	553.88	552.50
Nov. 15	553.85	553.00
Dec. 1	554.40	553.50
Dec. 15	554.96	554.00

1996

White Springs #1A is divided into three subsections (a, b, and c) due to orientation and elevation. White Springs (WS) #1Aa (a fast drying semi-upland area) produced mainly undesirables in 1996 including: trumpet creeper, broom sedge, alligator weed, and various asters. Smartweed was a small percentage of WS-#1Aa's composition. WS-#1Ab, a lower sub-impoundment, produced

✓
sprangletop with interspersions of willow, cocklebur, smartweed, and marsh mallow respectively. WS-#1Ac, a sloping area, was planted with corn. However, encroaching maple and ash on field edges and abundant cocklebur made the field less than desirable. Waterfowl use was moderate throughout the season. Mallards, black ducks, widgeon, and gadwall were the most prevalent species.

1997

White Springs #1 is planned for an early drawdown. WS-#1Aa will be disked early and planted to _____.

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DHO

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: White Springs #2

Acres: 85

<u>Survey Period</u>	<u>1996 Actual Level</u>	<u>1997 Proposed Level</u>
Jan. 1	555.20	554.50
Jan. 15	555.65	555.00
Feb. 1	555.32	554.50
Feb. 15	555.00	554.00
Mar. 1	554.02	553.50
Mar. 15	554.90	553.00
Apr. 1	555.05	552.50
Apr. 15	555.16	552.50
May 1	555.50	552.00
May 15	554.76	551.50
Jun. 1	553.50	551.00
Jun. 15	552.24	550.50
Jul. 1	550.01	550.00
Jul. 15	550.15	550.00
Aug. 1	550.04	550.00
Aug. 15	551.30	550.00
Sep. 1	551.20	550.00
Sep. 15	551.40	551.00
Oct. 1	552.00	551.50
Oct. 15	552.10	552.00
Nov. 1	553.20	552.50
Nov. 15	553.60	553.00
Dec. 1	554.00	553.50
Dec. 15	554.96	554.00

1996

White Springs #2 is divided into two sub-units (a & b). White Springs (WS) #2a produced a carpet of alligator weed in all lower areas. Sprangletop and frog fruit was found throughout the sub-unit. In higher elevations, broom sedge was most prevalent. Asters, trumpet creeper, and canary grass were a lesser percentage in the ridge areas. WS-#2b was mainly cocklebur. Asters comprised

most of the higher areas. Sprangletop, alligator weed, and wild millet were found in the lower areas. This was a favorite area for canvasbacks. Additionally, mallards, black ducks, widgeons, and pintails were found here in relatively heavy concentrations in late November.

1997

White Springs (WS) #2a will be spot sprayed with Arsenal to control alligator weed. The higher ridge areas will be planted to milo by a cooperative farmer.

ANNUAL WATER MANAGEMENT PLAN
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1997

Unit: White Springs #3

Acres: 75

<u>Survey Period</u>	<u>Actual Level</u> ¹⁹⁹⁶	<u>Proposed Level</u> ¹⁹⁹⁷
Jan. 1	555.08	554.50
Jan. 15	555.60	555.00
Feb. 1	555.26	554.50
Feb. 15	555.46	554.00
Mar. 1	554.80	553.50
Mar. 15	554.80	553.00
Apr. 1	554.96	553.00
Apr. 15	555.06	553.00
May 1	555.58	553.00
May 15	554.94	552.50
Jun. 1	553.40	552.00
Jun. 15	550.36	551.50
Jul. 1	553.40	551.00
Jul. 15	550.60	550.50
Aug. 1	550.60	550.00
Aug. 15	551.58	550.00
Sep. 1	551.38	550.00
Sep. 15	551.38	550.50
Oct. 1	552.00	551.00
Oct. 15	552.10	551.50
Nov. 1	552.76	552.00
Nov. 15	553.00	553.50
Dec. 1	553.30	554.00
Dec. 15	553.78	554.50

1996

White Springs #3 was composed primarily of alligator weed. However, wild millet and smartweed was interspersed. Cocklebur was distributed liberally throughout.

Asters were spotty and usually restricted to higher areas. Waterfowl used this unit moderately throughout the season. Mallards, black ducks, widgeon, and gadwalls were the main users. Blue-winged teal used it until mid-February.

1997

White Springs #3 will be sprayed with Arsenal to control alligator weed. Woody vegetation will be removed by dozer and/or excavator. The ditch will be lightly cleaned to improve drainage.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: White Springs #4

Acres: 75

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	555.30	554.50
Jan. 15	555.60	555.00
Feb. 1	555.40	554.50
Feb. 15	555.32	554.00
Mar. 1	554.00	553.50
Mar. 15	554.90	553.50
Apr. 1	554.90	553.50
Apr. 15	555.20	553.50
May 1	555.58	553.50
May 15	554.70	553.50
Jun. 1	553.50	553.50
Jun. 15	551.10	553.00
Jul. 1	551.30	552.50
Jul. 15	551.60	552.00
Aug. 1	551.60	551.50
Aug. 15	552.30	551.00
Sep. 1	552.10	550.50
Sep. 15	552.18	551.00
Oct. 1	552.74	551.50
Oct. 15	552.80	552.00
Nov. 1	553.20	552.50
Nov. 15	553.70	553.00
Dec. 1	554.40	553.50
Dec. 15	554.90	554.00

1996

White Springs #4 produced a good variety of waterfowl food plants. Smartweed, sedges, sprangletop, and wild millet. Water-primrose was also present, but did not impede other plant productivity. There is still a zone of willow along the ditch bank. WS-#4 was moderately used by waterfowl. Mallards, black ducks, widgeon, and pintail were the main users.

1997

White Springs #4 will not be mechanically manipulated except for the disking of small willows and the clearing of large willows by heavy equipment.

ANNUAL WATER MANAGEMENT PLAN
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1997

Unit: White Springs #5

Acres: 45

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	555.26	554.50
Jan. 15	555.60	555.00
Feb. 1	555.40	554.50
Feb. 15	555.28	554.00
Mar. 1	554.30	553.50
Mar. 15	554.90	553.50
Apr. 1	554.90	553.50
Apr. 15	555.20	553.50
May 1	555.58	553.50
May 15	555.40	553.50
Jun. 1	554.50	553.50
Jun. 15	553.20	553.00
Jul. 1	552.80	552.50
Jul. 15	552.90	552.00
Aug. 1	552.80	551.50
Aug. 15	553.40	551.00
Sep. 1	553.10	550.50
Sep. 15	553.20	551.00
Oct. 1	553.60	551.50
Oct. 15	553.40	552.00
Nov. 1	553.65	552.50
Nov. 15	553.90	553.00
Dec. 1	554.40	553.50
Dec. 15	554.90	554.00

1996

White Springs #5 had an abundance of smartweed over a carpet of water-primrose. Sedges and wild millet were also a high percentage of the composition. Knot grass was also present in small concentrations. Again, mallards, black ducks, widgeon, and pintail were the abundant species. Shoveler numbers fluctuated throughout the season and were always close to making the top four.

1997

White Springs #5 will not be mechanically manipulated except for some disking of small willows.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: White Springs #1B

Acres: 600

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	555.20	553.50
Jan. 15	555.55	554.00
Feb. 1	555.30	554.00
Feb. 15	555.48	554.00
Mar. 1	553.92	554.00
Mar. 15	554.78	553.50
Apr. 1	554.96	553.50
Apr. 15	555.08	553.50
May 1	555.70	553.00
May 15	555.00	552.50
Jun. 1	553.80	552.00
Jun. 15	550.28	551.50
Jul. 1	555.80	551.00
Jul. 15	550.80	550.50
Aug. 1	551.20	550.00
Aug. 15	550.20	550.00
Sep. 1	550.45	550.50
Sep. 15	550.45	551.00
Oct. 1	551.68	551.50
Oct. 15	552.60	552.00
Nov. 1	553.30	552.50
Nov. 15	553.78	553.00
Dec. 1	554.40	553.00
Dec. 15	554.90	553.50

1996

White Springs (WS) #1B is divided into four sub-impoundments (a, b, c, & d). Divisions are determined by differing elevations within the impoundment. WS-#1Ba was almost a solid mat of alligator weed with cocklebur and spots of wild millet as an overstory. Sedges were a noteworthy component. Ammania was scattered throughout the sub-impoundment. WS-#1Bb was covered with cocklebur, trumpet

creeper, alligator weed, and balloon vine. Wild millet was found throughout the sub-impoundment, but not in high concentrations. WS-#1Bc was almost equal percentages of alligator weed, willow, cocklebur, marsh mallow and balloon vine. WS-#1Bd was mainly cocklebur. Alligator weed dominated lower areas with some smartweed and wild millet present. Rattle box was concentrated in the higher areas. This was a high waterfowl use unit. The usual top four species

1997 (Plans)

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From the description of plant composition in this unit, it seems that an attempt to improve the composition would be appropriate.

D. Orr

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: White Springs #6

Acres: 300

	1996	1997
<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	555.20	555.00
Jan. 15	555.55	554.50
Feb. 1	555.30	554.00
Feb. 15	555.50	553.00
Mar. 1	553.00	552.00
Mar. 15	554.80	551.00
Apr. 1	554.96	550.00
Apr. 15	555.08	550.00
May 1	555.70	550.00
May 15	555.16	550.00
Jun. 1	553.80	550.00
Jun. 15	554.26	550.00
Jul. 1	554.50	550.00
Jul. 15	554.50	550.00
Aug. 1	554.60	550.00
Aug. 15	554.70	550.00
Sep. 1	554.50	551.00
Sep. 15	554.52	551.50
Oct. 1	554.68	552.00
Oct. 15	554.10	552.50
Nov. 1	554.75	553.00
Nov. 15	554.90	553.50
Dec. 1	555.30	554.00
Dec. 15	555.16	554.50

1996

White Springs #6 was in agricultural production in 1996. This was a high waterfowl use unit after rainy periods. Six inch puddles and an abundance of grain really brought in the birds.

1997

White Springs #6 will be in agricultural production in 1997.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: Penney Bottoms

Acres: 100

<u>Survey Period</u>	<u>1996 Actual Level</u>	<u>1997 Proposed Level</u>
Jan. 1	555.58	555.50
Jan. 15	556.50	555.50
Feb. 1	556.10	554.50
Feb. 15	556.65	554.00
Mar. 1	554.40	553.50
Mar. 15	554.40	553.00
Apr. 1	!!!!!!	553.00
Apr. 15	!!!!!!	553.00
May 1	!!!!!!	553.00
May 15	!!!!!!	553.00
Jun. 1	!!!!!!	553.00
Jun. 15	554.20	553.00
Jul. 1	554.00	553.00
Jul. 15	554.00	553.00
Aug. 1	554.00	553.00
Aug. 15	554.00	553.00
Sep. 1	554.00	554.00
Sep. 15	554.45	554.00
Oct. 1	554.70	554.00
Oct. 15	554.60	554.50
Nov. 1	554.74	554.00
Nov. 15	555.00	554.50
Dec. 1	555.48	554.50
Dec. 15	554.40	555.00

!!! = Gauge Down

1996

Penney Bottoms Unit was an excellent producer of waterfowl food. Wild millet, sprangletop, and various rushes and sedges were abundant throughout the unit. Crabgrass was also found in small concentrations. Spots of Phragmites were found on the eastern and western margins of the impoundment. Probably the premier unit of Wheeler. Abundant moist soil waterfowl foods at the appropriate water level packed the birds into this unit. On aerial surveys they appeared be "wing to wing".

1997

Penney Bottoms will be dewatered early and the Phragmites sprayed with herbicide. Portions of the unit will be disked. Other areas will be mown to control willow encroachment.

ANNUAL WATER MANAGEMENT PLAN
Wheeler National Wildlife Refuge
1997

Unit: Rockhouse #1

Acres: 325

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	556.27	554.50
Jan. 15	556.65	554.50
Feb. 1	556.42	554.00
Feb. 15	556.65	553.50
Mar. 1	553.60	553.00
Mar. 15	555.85	552.00
Apr. 1	555.50	551.50
Apr. 15	555.73	551.50
May 1	555.48	551.50
May 15	552.25	551.00
Jun. 1	551.73	550.00
Jun. 15	549.00	550.00
Jul. 1	549.90	550.00
Jul. 15	551.25	550.00
Aug. 1	550.00	550.00
Aug. 15	549.88	550.00
Sep. 1	552.00	550.00
Sep. 15	552.30	551.00
Oct. 1	553.08	551.50
Oct. 15	553.62	552.00
Nov. 1	553.85	552.50
Nov. 15	554.27	553.00
Dec. 1	555.36	553.50
Dec. 15	555.60	554.00

1996

Rockhouse #1 was in agricultural production in 1996. This was a moderate/high use unit for waterfowl. Shovelers and bufflehead seemed to favor this unit.

1997

Rockhouse #1 will be in agricultural production in 1996.

ANNUAL WATER MANAGEMENT PLAN
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1997

Unit: Buckeye

Acres: 160

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	556.24	554.50
Jan. 15	###.##	554.50
Feb. 1	556.46	554.00
Feb. 15	556.65	553.50
Mar. 1	553.70	553.00
Mar. 15	555.80	552.50
Apr. 1	555.50	552.00
Apr. 15	555.68	551.50
May 1	555.70	551.00
May 15	552.90	550.50
Jun. 1	552.00	550.00
Jun. 15	550.15	550.00
Jul. 1	551.00	550.00
Jul. 15	551.20	550.00
Aug. 1	550.50	550.00
Aug. 15	549.00	550.00
Sep. 1	552.00	550.00
Sep. 15	552.50	551.00
Oct. 1	553.05	551.50
Oct. 15	553.60	552.00
Nov. 1	553.78	552.50
Nov. 15	554.20	553.00
Dec. 1	555.20	553.50
Dec. 15	555.50	554.00

= Over Gauge

1996

The Buckeye Unit was disked and planted to millet. There was no vegetation transect ran in 1996. Buckeye water levels fluctuated greatly from day to day. Most of the high waterfowl use was early in the season (October-November). After that most of the food was inaccessible.

1997

Buckeye will be sprayed for alligator weed encroachment. The northern end will be disked to set back woody vegetation growth. Beaver dam removal will take priority early in the year. Mowing will be an option later in the year in some areas.

ANNUAL WATER MANAGEMENT PLAN
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Unit: Thorson Arm

Acres: 135

<u>Survey Period</u>	<u>Actual Level</u>	<u>Proposed Level</u>
Jan. 1	556.18	554.50
Jan. 15	556.65	554.50
Feb. 1	556.35	554.00
Feb. 15	556.65	553.50
Mar. 1	555.90	553.00
Mar. 15	555.60	552.50
Apr. 1	555.50	552.00
Apr. 15	555.65	551.50
May 1	555.70	551.00
May 15	554.20	550.50
Jun. 1	552.00	550.00
Jun. 15	551.14	550.00
Jul. 1	551.18	550.00
Jul. 15	551.20	550.00
Aug. 1	551.20	550.00
Aug. 15	551.20	550.00
Sep. 1	552.10	550.00
Sep. 15	552.30	551.00
Oct. 1	552.90	551.50
Oct. 15	553.40	552.00
Nov. 1	553.60	552.50
Nov. 15	554.05	553.00
Dec. 1	555.00	553.50
Dec. 15	555.40	554.00

1996

A drainage ditch divides the Thorson Arm Unit. The north side was disked. The south side was mown. Overall, the unit produced an excellent stand of wild millet. It also produced an excellent mat of alligator weed on the north side. Water-primrose, cocklebur, and asters were also prevalent. Waterfowl use was moderate throughout the season. Mallards, black ducks and widgeon were the

most common species found.

1997

Thorsen Arm will be farmed by cooperative farmers on the north side of the ditch. The south side will be mown late in the season (late July - mid August).